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CLAIMS

1. Feeder device for bars, able to pick up and remove selectively from a bundle (12) at least a bar (11) in order to arrange it for use in an operating machine, the device comprising first magnetic means (13, 113) able to separate from said bundle (12) at least an end segment of a plurality of bars (11) and to arrange at least the end segments of said plurality of bars (11) on a plane distanced with respect to said bundle (12), characterized in that it comprises second magnetic means (21, 121) able to pick up, from said first magnetic means (13, 113), at least one bar (11) at a time from said plurality of bars (11) and to unload said at least one bar (11) in a desired release position.
2. Device as in claim 1, characterized in that said first magnetic means (13, 113) are associated with movement means (15, 115, 215) able to move them, at least in a first step of the pick-up and removal cycle and at least for a part of their movement, in a first operating direction substantially orthogonal to a plane on which said bundle (12) of bars (11) lies, in order to raise the end segments of said plurality of bars (11) with respect to said bundle (12).
3. Device as in any claim hereinbefore, characterized in that said second magnetic means (21, 121) are associated with second movement means (23, 123) able to move them, at least in a second step of the pick-up and removal cycle, in a second operating direction parallel, curved or slant-wise with respect to said bars (11) supported by said first magnetic means (13, 113) in order to pick up therefrom one or more bars (11) and to displace them towards said desired release position.
4. Device as in claim 3, characterized in that said second

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magnetic means (21, 121) have a first advanced pick-up position wherein they cooperate with said first magnetic means (13, 113) in order to pick up therefrom said at least one bar (11), and a second retracted release position, a
5 stop element (35) being arranged along the return travel of said second magnetic means (21, 121) in order to determine the fall therefrom of said at least one bar (11).

5. Device as in claim 4, characterized in that said stop element (35) has an at least partly curved conformation in
10 order to determine a progressive detachment of said at least one bar (11) from said second magnetic means (21, 121).

6. Device as in claim 4, characterized in that a guide slide (36) is associated with said stop element (35) in
15 order to guide said at least one bar (11) after it has been detached from said second magnetic means (21, 121).

7. Device as in claim 4, characterized in that in said second release position said second magnetic means (21, 121) are arranged substantially in correspondence with a
20 drawing assembly (27) of said operating machine, into which said at least one bar (11) is able to be unloaded.

8. Device as in claim 7, characterized in that in correspondence with said second release position there are means (39a, 39b) able to be selectively activated in order
25 to correct positioning and/or alignment defects of said one or more bars (11) with respect to said drawing assembly (27).

9. Device as in claim 8, characterized in that said means comprise a pair of rollers (39a, 39b) having a first
30 reciprocally distanced inactive position and a second operating position wherein they are closed on said at least one bar (11).

10. Device as in any claim hereinbefore, characterized in

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that, in cooperation with the leading ends of said bars (11), there is a header element (37) able to be selectively activated at least when a plurality of bars (11) have been picked up by said first magnetic means (13, 113), are
5 raised with respect to said bundle (12) and are arranged substantially on a single plane.

11. Device as in any claim hereinbefore, characterized in that said first magnetic means (13, 113) comprise a magnetic element (14, 114) with a size, in a direction
10 transverse to the longitudinal development of the bars (11), at least equal to the width of said bundle (12).

12. Device as in claim 11, characterized in that said magnetic element (14) is mounted on a relative supporting arm (31) by means of an articulated connection (42).

15 13. Device as in any claim hereinbefore, characterized in that the first (13, 113) and/or the second (21, 121) magnetic means consist of electromagnets associated with selective feed means.

14. Device as in any claim from 1 to 11 inclusive,
20 characterized in that the first (13, 113) and/or second (21, 121) magnetic means consist of permanent magnets.

15. Device as in any claim hereinbefore, characterized in that detection means are associated with said second magnetic means (21, 121) in order to detect the absence of
25 bars (11) on said first magnetic means (13, 113) and to give consent for a new pick-up cycle by said first magnetic means (13, 113).

16. Device as in any claim hereinbefore, characterized in that said bars (11) are arranged in a plurality of housing
30 seatings (30) each one housing bars (11) of different sizes, said housing seatings (30) being reciprocally and selectively movable with respect to said first magnetic means (13, 113) in order to allow the sequential pick-up of

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bars (11) even of different sizes.

17. Device as in any claim hereinbefore, characterized in that the first (113) and the second (121) magnetic means are mounted on a movable support (118) suitable to move in
5 correspondence with the zone where there is said bundle (12) from which said bars (11) are to be picked up.

18. Method to feed bars (11), used to pick up and selectively remove from a bundle (12) at least one bar (11) in order to arrange it for use in an operating machine,
10 comprising a first step wherein first magnetic means (13, 113) are brought near said bundle (12) in order to magnetically attract an end segment of a plurality of bars (11) and distance them from said bundle (12), characterized in that it comprises a second step wherein second magnetic
15 means (21, 121) are brought near said first magnetic means (13, 113) in order to pick up therefrom at least one of said plurality of bars (11), and are then distanced therefrom in order to arrange said at least one bar (11) in a desired release position.

20 19. Method as in claim 18, characterized in that said second magnetic means (21, 121) are moved from a first advanced pick-up position cooperating with said first magnetic means (13, 113) in order to pick up said at least one bar (11) to a second retracted release position wherein
25 they cooperate with a drawing assembly (27) of said operating machine in order to release said at least one bar (11) into said drawing assembly (27).

20. Method as in claim 18, characterized in that, between said first step of distancing a plurality of bars (11) from
30 the bundle (12) by the first magnetic means (13, 113) and said second step of picking up at least one bar (11) by the second magnetic means (21, 121), it provides at least a heading step performed by a header element (37) in order to

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make the longitudinal positioning of said plurality of bars (11) equal.

21. Method as in claim 18, characterized in that, after the release of said at least one bar (11) by the second
5 magnetic means (21, 121), it provides at least a step to correct possible defects in the positioning of said bars (11) inside said drawing assembly (27).